NORTH DAKOTA DEPARTMENT of HEALTH

Tuberculosis (TB) ☎

Mycobacterium tuberculosis

What is tuberculosis?

Tuberculosis, or TB, is an infection caused by a bacteria that usually involves the lungs (pulmonary TB) but could affect other parts of the body (extra-pulmonary TB); for example, brain, lymph nodes, kidneys, bones, joints, larynx, intestines or eyes.

TB infection may result after close contact with a person who has TB disease. TB **infection** is determined by a significant reaction to the Mantoux skin test with no symptoms of TB and no TB bacteria found in the sputum. Sputum is mucous or phlegm coughed up from the lungs. TB **disease** is characterized by the appearance of symptoms, a significant reaction to the Mantoux skin test and identification of TB bacteria. TB may last for a lifetime as an infection, never developing into disease. However, individuals with TB infection are at considerable risk of developing TB disease, particularly during the first year after acquiring the infection. Additionally, individuals with weakened immune systems, such as people with HIV, are at high risk of developing TB disease if TB infection is untreated.

Who is at risk for tuberculosis?

Anyone can get TB. Individuals with weakened immune systems including those with AIDS or those infected with HIV (human immunodeficiency virus) are at increased risk.

What are the symptoms of tuberculosis?

Most TB infections in children and adolescents are without signs or symptoms. When infection causes disease, signs or symptoms include chronic cough, weight loss, fever, growth delay, night sweats and chills.

How soon do symptoms appear?

Evidence of infection (a positive skin test) may occur from two to twelve weeks after exposure to TB. The risk of TB disease is highest during the six months after infection, and remains high for two years; however, many years can elapse between initial infection and TB disease.

How is tuberculosis spread?

TB is spread by breathing in TB bacteria that someone with TB disease has coughed or sneezed (respiratory route) into the air, usually in an indoor environment. When a person with TB disease who is not taking TB medication coughs or sneezes, the bacteria get into the air. People are contagious only when there is active disease in their lungs or throat that has not been treated. Prolonged exposure to TB is normally necessary for infection to occur. TB is not spread through clothes, dishes, floors or furniture. Infection in children is nearly always the result of close contact with an adult who has this disease.

When and for how long is a person able to spread the disease?

A person with TB disease may remain contagious until he/she has been on appropriate treatment for several weeks. It is important to note that a person with TB infection, but not disease, **cannot** spread the infection to others, since there are no TB bacteria in the sputum (mucous or phlegm).

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Generally, infants and young children with active TB disease are not contagious. This is because they do not form cavities in their lungs with secretions that contain the TB bacterium, and when they cough, they do not create enough force to expel large numbers of TB bacteria into the air.

How is a person diagnosed?

Infection is most often diagnosed by a positive TB skin test result. A chest x-ray film is needed for those with a positive skin test to determine the extent of the infection and the necessary treatment. Laboratory tests are available to diagnose active TB disease.

What is the treatment?

People with active TB disease must complete the prescribed course of medicine, which usually involves three to four drugs for six to twelve months. TB infection is treated with isoniazid (INH). The exact medication plan must be determined by a physician. Consult a health-care professional for specific treatment information.

Does past infection make a person immune?

No. Past infection does not make a person immune, even though the bacteria can be carried in the body for years without active disease.

Should children or others be excluded from day care, school, work or other activities if they have Tuberculosis?

Yes, children and staff with TB disease should be excluded from school, day care or the work place until the sputum (mucous or phlegm) is negative (about two to four weeks after the beginning of treatment). Children and staff with TB infection do not need to be excluded.

What can be done to prevent the spread of Tuberculosis disease?

The most important way to stop the spread of tuberculosis is to cover the mouth and nose when coughing, and to take the prescribed medication as directed. Always wash your hands after coughing or sneezing. Exclusion and treatment of caregivers/teachers with active disease and skin testing of all household and close contacts of a person with active TB disease will help prevent the spread of the disease. All contacts with evidence of infection should be treated with INH. High-risk populations also should be TB skin tested.

In addition, require regular and substitute daycare staff and volunteers to have a one- or two-step Mantoux intradermal skin test prior to employment. A one-step test involves having the skin test only once. A two-step test requires having two tests, usually about a month apart, to "boost" the response of the person. The two-step test is used for people who are suspected to have a weakened immune system.

Additional Information:

Additional information is available at www.ndhealth.gov/disease or by calling the North Dakota Department of Health at 800.472.2180.

This disease is a reportable condition. As mandated by North Dakota law, any incidence of this disease shall be reported to the North Dakota Department of Health.

Resource: American Academy of Pediatrics. [Tuberculosis]. In: Pickering LK, ed. *Red Book: 2003 Report of the Committee on Infectious Diseases.* 26th ed. Elk Grove Village, IL: American Academy of Pediatrics; 2003: 642-660.

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